

APPARATUS, SYSTEMS AND METHODS FOR FACILITATING THE ACCURATE
CALCULATION OF A STEAM-CARBON RATIO IN A HYDROCARBON REFORMER

ABSTRACT OF THE DISCLOSURE

In a system and method for accurately calculating a steam-carbon ratio in a steam reformer or the like, a level control device operates a control valve to maintain the water in the steam reformer at a substantially constant level. A meter upstream of the heat exchanger measures the amount of water entering the heat exchanger. With a reading from that meter, the steam-carbon ratio at the reformer can be accurately counted. In another embodiment of the present invention, a process gas inlet incorporates an elongated body extending at least partially through the process portion of the heat exchanger. Openings spaced apart along the length of the body distribute the process gas along the length of the heat exchanger. In still another embodiment of the invention, a plurality of dividers is spaced apart along a width of the process portion of the heat exchanger. The dividers are positioned to receive the process gas as it rises from the process gas inlet, and to disperse the process gas along the width of the heat exchanger.

WPNL\130109 - BALLARD\413\413-AP.DOC\V1